

## REMARKS

Claims 7 to 11 are pending in the current application.

### **I. Rejection of Claims 7 to 11 Under 35 U.S.C. §103(a)**

Claims 7 to 11 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over United States Patent No. 4,649,023 ("Sabol") in view of United States Patent No. 5,832,050 ("Rebeyrolle").

Claim 7 relates to a method of manufacturing tubes intended for making all or the external part of a sheathing tube for a nuclear fuel rod or a guide tube for a nuclear fuel assembly, characterized in that a bar is formed of a zirconium based alloy which also contains, firstly 0.03 to 0.25% in total firstly of iron, secondly, at least one of the elements from the group comprising chromium and vanadium, 0.8 to 1.3% of niobium, less than 2000 ppm of tin, 500 to 2000 ppm of oxygen, less than 100 ppm of carbon, 5 to 35 ppm of sulfur and less than 50 ppm of silicon, quenching the bar in water after heating to between 1000° and 1200°C, extruding a blank after heating to a temperature of between 600°C and 800°C, cold-rolling said blank in at least four passes to obtain a tube, with intermediate heat treatments between 560°C and 620°C, and applying a final heat treatment at between 560°C and 620°C, all the heat treatments being applied in an inert atmosphere or under vacuum.

The Office Action alleges that Sabol reference teaches the invention substantially as claimed. The Office Action, however, admits that the Sabol reference does not teach any information pertaining to the sulfur content of the alloy. The Office Action alleges that the Rebeyrolle reference teaches that 8 to 100 ppm, and preferably 8 to 30 ppm of sulfur is added to the zirconium alloy in order to increase the corrosion resistance of the alloy along with having a beneficial effect on the creep behavior of the alloy.

The Sabol reference specifies a zirconium alloy that contains, in percentages by weight, 0.5 to 2.0 percent niobium, up to 1.5 percent tin and up to about 0.25 percent of a third alloying element as well as methods to make such an alloy. As provided in column 2, lines 56 to 60, the Sabol reference requires the third alloying element to be from: iron, chromium, molybdenum, vanadium, copper, nickel and tungsten. As specified by the Sabol specification, the Sabol reference provides a zirconium alloy that can **only have one** (1) of iron, chromium and vanadium. The Sabol reference is silent as to any method applicable for producing or manufacturing

a product having 0.03 to 0.25% in total firstly of iron, secondly, at least one of the elements from the group comprising chromium and vanadium, 0.8 to 1.3% of niobium, less than 2000 ppm of tin, 500 to 2000 ppm of oxygen, less than 100 ppm of carbon, 5 to 35 ppm of sulfur and less than 50 ppm of silicon and is therefore drawn to a different material and does not provide any information on methods for attaining a material as provided in claim 7.

The Sabol reference is also deficient in that the initial beta treatment of material occurs between 950°C and 1000°C while in the present invention claim 7 and its corresponding dependent claims, the method requires the step of heating to between 1000° and 1200°C, different than the values recited in Sabol. The Sabol reference is further deficient in that it always requires a specific step of  $\beta$  annealing between an extrusion and a first rolling, different than the present invention which requires no such step. The Sabol reference is further deficient in that it does not disclose or suggest the method step of applying a final heat treatment specifically at between 560°C and 620°C which corresponds to a recrystallization annealing. The Sabol reference, as provided in col. 4, lines 4 to 6, requires a final anneal less than 650°C and cites as an example, a stress-relieving annealing at approximately 480°C, significantly lower than that required in claim 7. Sabol, in fact, merely aims at obtaining extremely fine precipitates of less than 800 Å wherein the present invention produces precipitates with a diameter of between 1000Å and 2000Å.

The Rebeyrolle et al. reference also requires a specific sequence of operations, to produce a material admitted by the Office Action to be different than the material provided in Sabol. Applicants respectfully submit that the methodology to produce the different products in Rebeyrolle et al. would not be combined by a person of skill in the with Sabol as the methodologies are completely different and produced materials have a different structure and composition. The Rebeyrolle et al. reference, for example, does not provide any method steps of heating between 600 and 800 degrees and would result in a product with different morphology than as required in claim 7.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion

or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). The references do not disclose, or even suggest, all of the limitations of claim 7.

Moreover, it is respectfully submitted that the cases of In re Fine, supra, and In re Jones, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992), make plain that the Final Office Action's generalized assertions that it would have been obvious to modify or combine the reference do not properly support a § 103 rejection. It is respectfully submitted that those cases make plain that the Office Action reflects a subjective "obvious to try" standard, and therefore does not reflect the proper evidence to support an obviousness rejection based on the reference relied upon. In particular, the Court in the case of In re Fine stated that:

The PTO has the burden under section 103 to establish a *prima facie* case of obviousness. It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. This it has not done. . . .

. . . .

**Instead, the Examiner relies on hindsight in reaching his obviousness determination. . . . One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.**

In re Fine, 5 U.S.P.Q.2d at 1598 to 1600 (citations omitted; italics in original; emphasis added). Likewise, the Court in the case of In re Jones stated that: Before the PTO may combine the disclosures of two or more prior art references in order to establish *prima facie* obviousness, there must be some suggestion for doing so, found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. . . .

**Conspicuously missing from this record is any evidence, other than the PTO's speculation (if it be called evidence) that one of ordinary skill . . . would have been motivated to make the modifications . . . necessary to arrive at the claimed [invention].**

In re Jones, 21 U.S.P.Q.2d at 1943, 1944 (citations omitted; italics in original).

That is exactly the case here since it is believed and respectfully submitted that the present Office Action offers no evidence whatsoever, but only conclusory hindsight, reconstruction and speculation, which these cases have indicated does not constitute evidence that will support a proper obviousness finding. Unsupported assertions are not evidence as to why a person having ordinary skill in the art would be motivated to modify or combine references to provide the claimed subject matter of the claims to address the problems met thereby. Accordingly, the Office must provide proper evidence of a motivation for modifying or combining the reference to provide the claimed subject matter.

More recently, the Federal Circuit in the case of In re Kotzab has made plain that even if a claim concerns a “technologically simple concept” — which is not the case here — there still must be some finding as to the “specific understanding or principle within the knowledge of a skilled artisan” that would motivate a person having no knowledge of the claimed subject matter to “make the combination in the manner claimed,” stating that:

In this case, the Examiner and the Board fell into the hindsight trap. The idea of a single sensor controlling multiple valves, as opposed to multiple sensors controlling multiple valves, is a technologically simple concept. With this simple concept in mind, the Patent and Trademark Office found prior art statements that in the abstract appeared to suggest the claimed limitation. But, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed. In light of our holding of the absence of a motivation to combine the teachings in Evans, we conclude that the Board did not make out a proper prima facie case of obviousness in rejecting [the] claims . . . under 35 U.S.C. Section 103(a) over Evans.

In re Kotzab, 55 U.S.P.Q.2d 1313, 1318 (Fed. Cir. 2000) (emphasis added). Again, it is believed that there have been no such findings.

Accordingly, there is no evidence that the references relied upon, whether taken alone, combined or modified, would provide the features and benefits of claim 7. It is therefore respectfully submitted that claim 7 is allowable for these reasons.

Claims 8 to 11 depend from claim 7 and therefore include the features of claim 7. Applicant respectfully requests withdrawal of the rejection to claim 8 to 11.

**II. Rejection of Claims 7 to 11 Under Nonstatutory obviousness Double Patenting**

Claims 7 to 11 were rejected on the ground of nonstatutory obviousness double patenting to claims 13 to 16 of copending application 10/885,927 and claim 9 of United States Patent 6,863,475. Applicant respectfully acknowledges the rejections to claims 7 to 11 and submit that the claims of the present invention are patentably distinct from the cited application and United States Patent. 6,863,475.


**III. Conclusion**

It is therefore respectfully submitted that the pending claims are allowable. All issues raised by the Examiner have been addressed, and an early and favorable action on the merits is solicited.

Respectfully submitted,

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